UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,631	09/19/2003	Shpak Eran	90648	5078

24628   7590   10/28/2008
Husch Blackwell Sanders, LLP
Welsh & Katz
120 S RIVERSIDE PLAZA
22ND FLOOR
CHICAGO, IL 60606

EXAMINER
NGUYEN, TUAN HOANG

ART UNIT	PAPER NUMBER
2618	

MAIL DATE	DELIVERY MODE
10/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/664,631	ERAN ET AL.
	Examiner	**Art Unit**	
	TUAN H. NGUYEN	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 July 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-4,7-17,20-34 and 37-47</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-4,7-17,20-34 and 37-47</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments, see applicant's remarks, filed on 07/03/2008, with respect

to the rejection(s) of claims 1-4, 7-17, 20-34, and 37-47 under 35 U.S.C § 103(a) have

been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of

Sherman (US PAT. 7,046,690) in view of Bajic (US PUB. 2003/0227893) and further in

view of Ozugur (U.S PAT. 7,289,463).

Information Disclosure Statement

2.   The information disclosure statement (IDS) submitted on 07/03/2008 and

07/17/2008 has been considered by Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-4, 14-17 and 32-34 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sherman (US PAT. 7,046,690) in view of Bajic (U.S PUB.

2003/0227893) and further in view of Ozugur et al. (U.S PUB. 2004/0203740

hereinafter, "Ozugur").

Consider claim 1, Sherman teaches a method for mobile communication,

comprising: arranging a plurality of access points (160-1 to 160-4) in a wireless local

area network (WLAN) to communicate over the air with a mobile station (i.e., 160-1)

using a common basic service set identification (BSSID) (i.e., stations 160-1 and 160-2

provided in a first basic service set BSS1 having the same basic service, and stations

160-3 and 160-4 provided in a second basic service set BSS2 having the same basic

service) for all the access points (fig. 1 col. 3 lines 41-60); and transmitting a response

from the selected one of the access points to the mobile station (col. 4 lines 20-34).

Sherman does not explicitly show that receiving at one or more of the access

points an uplink signal transmitted over the WLAN by the mobile station using the

common BSSID; sending and receiving messages over a communication medium

linking the access points in order to select one of the access points to respond to the

uplink signal.

In the same field of endeavor, Bajic teaches receiving at one or more of the

access points an uplink signal transmitted over the WLAN by the mobile station using

the common BSSID (page 3 [0052] and page 9 [0137-0138]); sending and receiving

messages over a communication medium linking the access points in order to select

one of the access points to respond to the uplink signal (page 10 [0145]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, receiving at one or more of the access points an uplink signal transmitted over the WLAN by the mobile station using the common BSSID; sending and receiving messages over a communication medium linking the access points in order to select one of the access points to respond to the uplink signal, as taught by Bajic, in order to running two or more instances of a switch MAC sublayer on a switch and managing the two or more instances of the switch MAC sublayer as multiple logical access points inside the switch.

Sherman and Bajic in combination, fail to teach assigning a respective medium access control (MAC) address to each of the access points and configuring the access points to emulate mobile station communications, so that each of the access points acknowledges uplink data messages addressed from the mobile station to the respective MAC address and ignores the uplink data messages that are not addressed to the respective MAC address.

However, Ozugur teaches assigning a respective medium access control (MAC) address to each of the access points (i.e., the WiARP server checks the data store for a matching IP address. If a matching IP address is identified, the WiARP server issues a WiARP response message to the gateway which contains **the MAC address of the access point linked to the matching IP address**. The gateway then delivers the IP data packet to **the access point having the provided MAC address**) and configuring the access points to emulate mobile station communications (i.e., the data store at the access point is checked for a matching IP address and, if a matching IP address is

identified, the access point delivers the IP data packet to the mobile station having the

MAC address linked to the matching IP address), so that each of the access points

acknowledges uplink data messages addressed from the mobile station to the

respective MAC address (col. 2 lines 35-50).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the disclosing of Ozugur into view of Sherman and Bajic, in

order to provide a wireless network and an associated method for unicast delivery of IP

data packets to mobile stations associated with access points of the wireless network.

Consider claim 2, Sherman further teaches the access points are configured to

communicate with the mobile station over a common frequency channel shared by all

the access points (col. 3 lines 46-50).

Consider claims 3, Sherman further teaches the access points have respective

service areas, and wherein arranging the plurality of the access points comprises

arranging the access points so that the service areas substantially overlap (col. 4 lines

3-19).

Consider claims 4, Sherman further teaches arranging the plurality of the access

points comprises arranging the access points to communicate with the mobile station

substantially in accordance with IEEE Standard 802.11 (col. 14 lines 10-22).

Consider claim 14, Bajic further teaches sending and receiving the messages

comprises sending the messages from the access points to a manager node, which

processes the messages so as to select the one of the access points to respond to the

uplink signal, and sending instructions from the manager node to the selected one of

the access points to transmit the response (page 10 [0145]).

Consider claim 15, Sherman teaches a method for mobile communication,

comprising: arranging a plurality of access points in a wireless local area network

(WLAN) to communicate over the air on a common frequency channel with a mobile

station (fig. 1 col. 3 lines 41-60); receiving at two or more of the access points an uplink

signal transmitted over the WLAN by the mobile station on the common frequency

channel (fig. 1 col. 3 lines 41-60 and col. 4 lines 20-34); and transmitting a response

from the selected one of the access points to the mobile station (col. 4 line 20-34).

Sherman does not explicitly show that conveying messages responsively to the

uplink signal from the one or more of the access points over a communication medium

linking the access points to a manager node; processing the messages at the manager

node so as to select one of the access points that received the uplink signal to respond

to the uplink signal.

In the same field of endeavor, Bajic teaches conveying messages responsively to

the uplink signal from the one or more of the access points over a communication

medium linking the access points to a manager node (page 3 [0052] and page 9 [0137-

0138]); processing the messages at the manager node so as to select one of the

access points that received the uplink signal to respond to the uplink signal (page 10 [0145]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use, conveying messages responsively to the uplink signal from the one or more of the access points over a communication medium linking the access points to a manager node; processing the messages at the manager node so as to select one of the access points that received the uplink signal to respond to the uplink signal, as taught by Bajic, in order to running two or more instances of a switch MAC sublayer on a switch and managing the two or more instances of the switch MAC sublayer as multiple logical access points inside the switch.

Sherman and Bajic in combination, fail to teach assigning a respective medium access control (MAC) address to each of the access points and configuring the access points to emulate mobile station communications, so that each of the access points acknowledges uplink data messages addressed from the mobile station to the respective MAC address and ignores the uplink data messages that are not addressed to the respective MAC address.

However, Ozugur teaches assigning a respective medium access control (MAC) address to each of the access points and configuring the access points to emulate mobile station communications, so that each of the access points acknowledges uplink data messages addressed from the mobile station to the respective MAC address (col. 2 lines 35-50).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the disclosing of Ozugur into view of Sherman and Bajic, in

order to provide a wireless network and an associated method for unicast delivery of IP

data packets to mobile stations associated with access points of the wireless network.

Consider claims 16, and 33, Sherman further teaches the access points have

respective service areas, and wherein arranging the plurality of the access points

comprises arranging the access points so that the service areas substantially overlap

(col. 4 lines 3-19).

Consider claims 17, and 34, Sherman further teaches arranging the plurality of

the access points comprises arranging the access points to communicate with the

mobile station substantially in accordance with IEEE Standard 802.11 (col. 14 lines 10-

22).

Consider claim 32, Sherman teaches apparatus for mobile communication,

comprising: a plurality of access points, which are arranged in a wireless local area

network (WLAN) to communicate over the air on a common frequency channel with a

mobile station using a common basic service set identification (BSSID) for all the

access points (fig. 1 col. 3 lines 41-60); and which are adapted, upon receiving at one or

more of the access points an uplink signal transmitted over the WLAN by the mobile

station on the common frequency channel, to convey messages responsively to the

uplink signal from the one or more of the access points over a communication medium

linking the access points (fig. 1 col. 3 lines 41-60 and col. 4 lines 20-34).

Sherman does not explicitly show that a manager node, linked to the

communication medium, which is adapted to process the messages so as to select one

of the access points to respond to the uplink signal, and to instruct the selected one of

the access points to transmit a response to the mobile station.

In the same field of endeavor, Bajic teaches a manager node, linked to the

communication medium, which is adapted to process the messages so as to select one

of the access points to respond to the uplink signal (page 9 [0137-0138]), and to instruct

the selected one of the access points to transmit a response to the mobile station (page

10 [0145]).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to use, a manager node, linked to the communication

medium, which is adapted to process the messages so as to select one of the access

points to respond to the uplink signal, and to instruct the selected one of the access

points to transmit a response to the mobile station, as taught by Bajic, in order to

running two or more instances of a switch MAC sublayer on a switch and managing the

two or more instances of the switch MAC sublayer as multiple logical access points

inside the switch.

Sherman and Bajic in combination, fail to teach assigning a respective medium

access control (MAC) address to each of the access points and configuring the access

points to emulate mobile station communications, so that each of the access points

acknowledges uplink data messages addressed from the mobile station to the

respective MAC address and ignores the uplink data messages that are not addressed

to the respective MAC address.

However, Ozugur teaches assigning a respective medium access control (MAC)

address to each of the access points and configuring the access points to emulate

mobile station communications, so that each of the access points acknowledges uplink

data messages addressed from the mobile station to the respective MAC address (col.

2 lines 35-50).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the disclosing of Ozugur into view of Sherman and Bajic, in

order to provide a wireless network and an associated method for unicast delivery of IP

data packets to mobile stations associated with access points of the wireless network.

5.   Claims 7-10, 20-23 and 37-40 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sherman in view of Bajic and Ozugur and further in view of

Honkasalo et al. (U.S PUB. 2003/0210674 hereinafter, "Honkasalo").

Consider claim 7, Sherman, Bajic and Ozugur in combination, fails to teach

sending and receiving the messages comprises reconfiguring the selected one of the

access points temporarily to stop emulating the mobile station communications, so as to

transmit an acknowledgment to a management frame transmitted by the mobile station.

However, Honkasalo teaches sending and receiving the messages comprises reconfiguring the selected one of the access points temporarily to stop emulating the mobile station communications, so as to transmit an acknowledgment to a management frame transmitted by the mobile station (page 2 [0017]).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to incorporate the disclosing of Honkasalo into view of Sherman, Bajic and Ozugur, in order to provide the base station of a cellular communication network the ability to preemptively control priority and duration of mobile station access by employing a scheduling method which considers one or more parameters including priority access service, quality of service, and a maximum number of bytes per transmission.

Consider claim 8, Honkasalo further teaches sending and receiving the messages comprises changing the respective MAC address of the selected one of the access points temporarily, so as to cause the selected one of the access points to transmit an acknowledgment to a management frame transmitted by the mobile station (page 3 [0038]).

Consider claim 9, Honkasalo further teaches transmitting the response comprises instructing the mobile station to transmit all the uplink data messages to the respective MAC address of the selected one of the access points (page 6 [0057] and [0058]).

Consider claim 10, Sherman further teaches instructing the mobile station comprises sending an Address Resolution Protocol (ARP) response to the mobile station (col. 4 lines 10-14).

Consider claims 20 and 37, Honkasalo further teaches sending and receiving the messages comprises reconfiguring the selected one of the access points temporarily to stop emulating the mobile station communications, so as to transmit an acknowledgment to a management frame transmitted by the mobile station (page 2 [0017]).

Consider claims 21 and 38, Honkasalo further teaches sending and receiving the messages comprises changing the respective MAC address of the selected one of the access points temporarily, so as to cause the selected one of the access points to transmit an acknowledgment to a management frame transmitted by the mobile station (page 3 [0038]).

Consider claims 22 and 39, Honkasalo further teaches transmitting the response comprises instructing the mobile station to transmit all the uplink data messages to the respective MAC address of the selected one of the access points (page 6 [0057] and [0058]).

Consider claims 23 and 40, Sherman further teaches instructing the mobile

station comprises sending an Address Resolution Protocol (ARP) response to the

mobile station (col. 4 lines 10-14).

6.   Claims 11, 24 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Sherman in view of Bajic, Honkasalo, and Ozugur and further in view of Chari et al.

(U.S PAT. 7,016,328 hereinafter, "Chari").

Consider claim 11, Sherman, Bajic, Honkasalo, and Ozugur in combination, fails

to teaches subsequently to transmitting the response from the selected one of the

access points, and responsively to a further uplink signal received from the mobile

station, selecting a further one of the access points to communicate with the mobile

station, and sending a spoofed ARP response to the mobile station instructing the

mobile station to transmit all further uplink data messages to the respective MAC

address of the further one of the access points.

However, Chari teaches subsequently to transmitting the response from the

selected one of the access points, and responsively to a further uplink signal received

from the mobile station, selecting a further one of the access points to communicate

with the mobile station, and sending a spoofed ARP response to the mobile station

instructing the mobile station to transmit all further uplink data messages to the

respective MAC address of the further one of the access points (col. 14 lines 55-62).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the disclosing of Chari into view of Sherman, Bajic, Honkasalo,

and Ozugur, in order to provide the wireless mesh network that allows wireless handoffs

of a client between access nodes of the mesh network and does not require the client to

include special hardware or software.

Consider claims 24 and 41, Chari further teaches subsequently to transmitting

the response from the selected one of the access points, and responsively to a further

uplink signal received from the mobile station, selecting a further one of the access

points to communicate with the mobile station, and sending a spoofed ARP response to

the mobile station instructing the mobile station to transmit all further uplink data

messages to the respective MAC address of the further one of the access points (col.

14 lines 55-62).

7.   Claims 12-13, 25-28 and 42-44 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sherman in view of Bajic, and Ozugur and further in view of

Melpignano et al. (U.S PUB. 2003/0003912 hereinafter, "Melpignano").

Consider claim 12, Sherman, Bajic, and Ozugur in combination, fails to teach

receiving the uplink signal comprises measuring a strength of the uplink signal at each

of the one or more of the access points, and wherein sending and receiving the

messages comprises indicating in the messages the measured strength of the uplink

signal, and selecting the one of the access points to respond to the uplink signal

responsively to the strength indicated in the messages.

However, Melpignano teaches receiving the uplink signal comprises measuring a

strength of the uplink signal at each of the one or more of the access points, and

wherein sending and receiving the messages comprises indicating in the messages the

measured strength of the uplink signal, and selecting the one of the access points to

respond to the uplink signal responsively to the strength indicated in the messages

(page 1 [0009]).

Therefore, it is obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the disclosing of Melpignano into view of Sherman, Bajic, and

Ozugur, in order to provide a technique for deriving and distributing information about

network topology in such an arrangement and provides communication units for use in

the arrangement.

Consider claim 13, Melpignano further teaches measuring the strength

comprises measuring the strength repeatedly in response to subsequent uplink signals

transmitted by the mobile station, and wherein selecting the one of the access points

comprises selecting a different one of the access points to respond to the subsequent

uplink signals, responsively to a change in the measured strength (page 7 [0097]).

Consider claims 25 and 42, Melpignano further teaches receiving the uplink

signal comprises measuring a strength of the uplink signal at each of the one or more of

the access points, and wherein sending and receiving the messages comprises

indicating in the messages the measured strength of the uplink signal, and selecting the

one of the access points to respond to the uplink signal responsively to the strength

indicated in the messages (page 1 [0009]).

Consider claims 26, and 43, Melpignano further teaches measuring the strength

comprises measuring the strength repeatedly in response to subsequent uplink signals

transmitted by the mobile station, and wherein selecting the one of the access points

comprises selecting a different one of the access points to respond to the subsequent

uplink signals, responsively to a change in the measured strength (page 7 [0097]).

Consider claim 27, Melpignano further teaches sending and receiving the

messages comprises sending the messages from arranging the plurality of the access

points comprises assigning all the access points to the same basic service set (BSS)

(page 8 [0109]).

Consider claims 28 and 44, Melpignano further teaches sending and receiving

the messages comprises sending the messages from the manager node comprises a

plurality of management processors (pages 6-7 [0094] through [0098], page 8 [0111]

through [0115]).

8.   Claims 29-31 and 45-47 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sherman in view of Bajic, Ozugur and Melpignano and further in view

of Honkasalo.

        Consider claims 29 and 45, Sherman, Bajic, Ozugur, and Melpignano, in

combination, fails to teaches the plurality of management processors comprises a

control processor and a packet processor, and wherein processing the messages

comprises selecting the one of the access points to respond to the uplink signal using

the control processor, and further comprises processing uplink data packets received by

the selected one of the access points using the packet processor.

        However, Honkasalo teaches the plurality of management processors comprises

a control processor and a packet processor, and wherein processing the messages

comprises selecting the one of the access points to respond to the uplink signal using

the control processor, and further comprises processing uplink data packets received by

the selected one of the access points using the packet processor (page 3 [0033]).

        Therefore, it is obvious to one of ordinary skill in the art at the time the invention

was made to incorporate the disclosing of Honkasalo into view of Sherman, Bajic,

Ozugur, and Melpignano, in order to provide the base station of a cellular

communication network the ability to preemptively control priority and duration of mobile

station access by employing a scheduling method which considers one or more

parameters including priority access service, quality of service, and a maximum number

of bytes per transmission.

Consider claims 30, and 46, Honkasalo further teaches processing the uplink

data packets comprises decrypting the uplink data packets and encrypting downlink

data packets at the packet processor, for transmission by the selected one of the

access points (page 5 [0049]).

Consider claims 31, and 47, Honkasalo further teaches processing the messages

comprises distributing the messages for processing among the plurality of the

management processors (page 3 [0031]).

Conclusion

9.   Any response to this action should be mailed to:

            Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

                    Commissioner for Patents

                    P.O. Box 1450

                    Alexandria, VA 22313-1450

            Facsimile responses should be faxed to:

                    (571) 273-8300

            Hand-delivered responses should be brought to:

                    Customer Service Window

                    Randolph Building

401 Dulany Street

Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571)272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571)272-7882882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tuan Nguyen/
Examiner
Art Unit 2618

/Nay A. Maung/
Supervisory Patent Examiner, Art Unit 2618